METHOD FOR MEASUREMENT OF PITCH IN METROLOGY AND IMAGING SYSTEMS

ABSTRACT OF THE DISCLOSURE

In accordance with an embodiment of the invention, a method for measuring pitch in data obtained from metrology and imaging systems is provided. A data set from a metrology or imaging instrument is obtained. The data set is converted into digital format if not already in that format. The digitized data set is mapped into a one-dimensional profile data if the digitized data set is not already one-dimensional. The one-dimensional profile data denoted by f(x) is a function of x position values corresponding to equally spaced or nearly equally spaced pixels. A criteria function g(T) is constructed as a one-dimensional data array from the profile data f(x) or any of its derivatives and a translation of the profile data f(x) denote by f(x+T) or any of its derivatives. Here, T represents the amount of translation, and g(T) is a function of T translation values corresponding to equally spaced or nearly equally spaced pixels. A value of translation T is then determined either as a whole pixel or with subpixel interpolation such that the magnitude of g(T) would be either a maximum or a minimum whichever appropriate at said value, wherein the determined value is not zero. The determined value is then reported as the pitch in the data set.